

DATA SHEET: CKRF3509MM34

L TO S BAND LOW NOISE AMPLIFIER IC



Features :

- Low noise figure and high associated gain
NF=0.4dB Typ., Ga=17.0dB Typ.
@Vdd=3.0V, Idd=15mA, f=1.575GHz

Description :

- Low Noise and High Gain
- On chip Bias supply circuit
- On chip ESD protection diode

Applications :

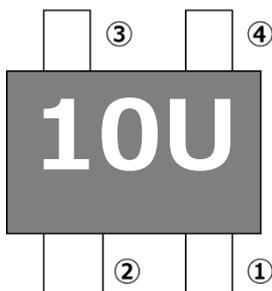
- Low Noise Amplifier IC for Global Navigation Satellite Systems (GNSS) like GPS, GLONASS, Beidou and Galileo
- Low Noise Amplifier IC for Satellite Radio (SDARS, DMB, etc.) Antenna
- Low Noise Amplifier for Microwave Communication



Package :

- Flat-lead 4-pin thin-type super minimold package

PIN Configuration :



PIN No.	PIN Name
1	Source
2	OUT
3	Source
4	IN

Ordering Information :

Part Number	Order Number	Package	Marking	Supplying Form
CKRF3509MM34-C2B	CKRF3509MM34-C2B	Flat-lead 4-pin thin-type super minimold package	10U	<ul style="list-style-type: none"> • Embossed 8 mm wide • Pin 1 (Source), Pin 2 (OUT) • Face the perforation side of the Tape • Qty 5Kpcs/reel

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Absolute Maximum Ratings :

Parameter	Symbol	Rating	Unit
Supply Voltage	Vdd	4.0	V
RF Input Power	P _{RFIn}	+13	dBm
Operating Ambient Temperature	T _A	-45~+85	°C
Storage Temperature	T _{stg}	-55~+150	°C

Recommended Operating Range :

(T_A=+25°C, unless otherwise specified)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Supply Voltage	Vdd	2.7	3.0	3.3	V

Electrical Characteristics:

(T_A=+25°C, unless otherwise specified) *With matching circuit

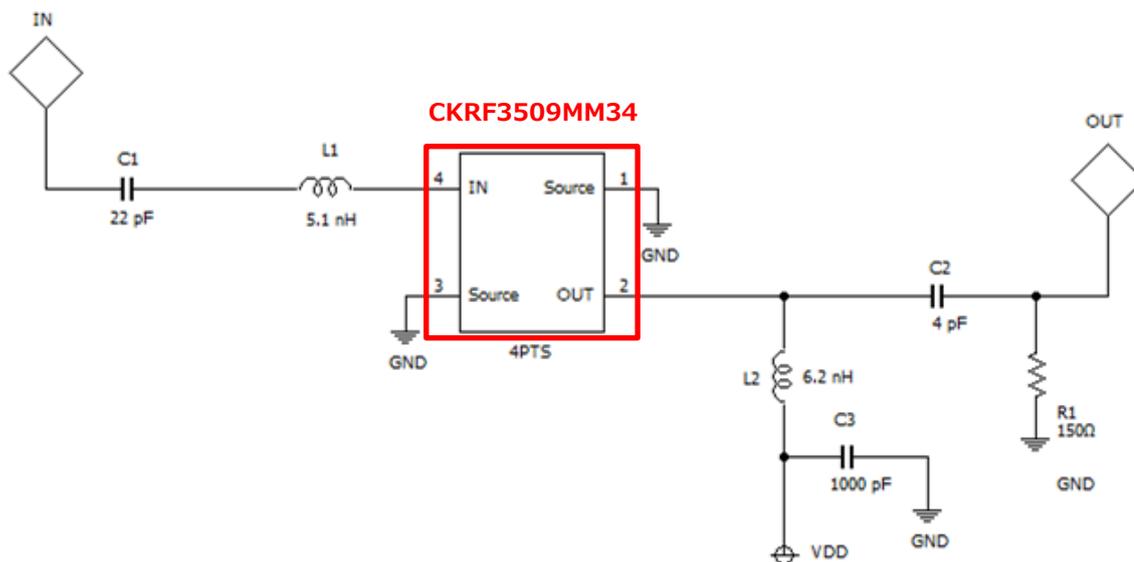
Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply Current	I _{dd}	Vdd=3.0V	11.4	15.0	20.6	mA
Power Gain	Gain	Vdd=3.0V, I _{dd} =15mA,	15.5	17.0	-	dB
Noise Figure	NF	f=1.575GHz	-	0.40	0.65	dB
Input 3rd Order Intercept Point	IIP3	Vdd=3.0V, I _{dd} =15mA, f=1.575GHz	-	+4.5	-	dBm
Output Power at 1dB Compression Point	P _{O(1dB)}	Vdd=3.0V, I _{dd} =15mA (Non-RF) f=1.575GHz	-	12.0	-	dBm

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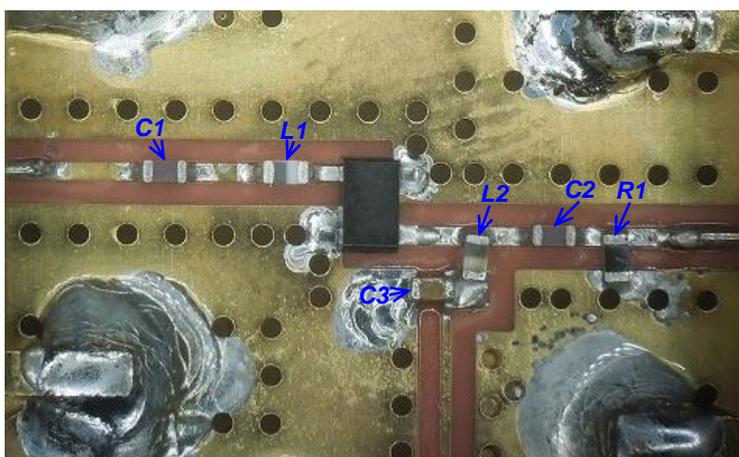


Application Circuit :



Evaluation Board Information :

<PCB>
FR-4
t = 0.2 mm
 $\epsilon_r = 4.30$
tan delta = 0.016

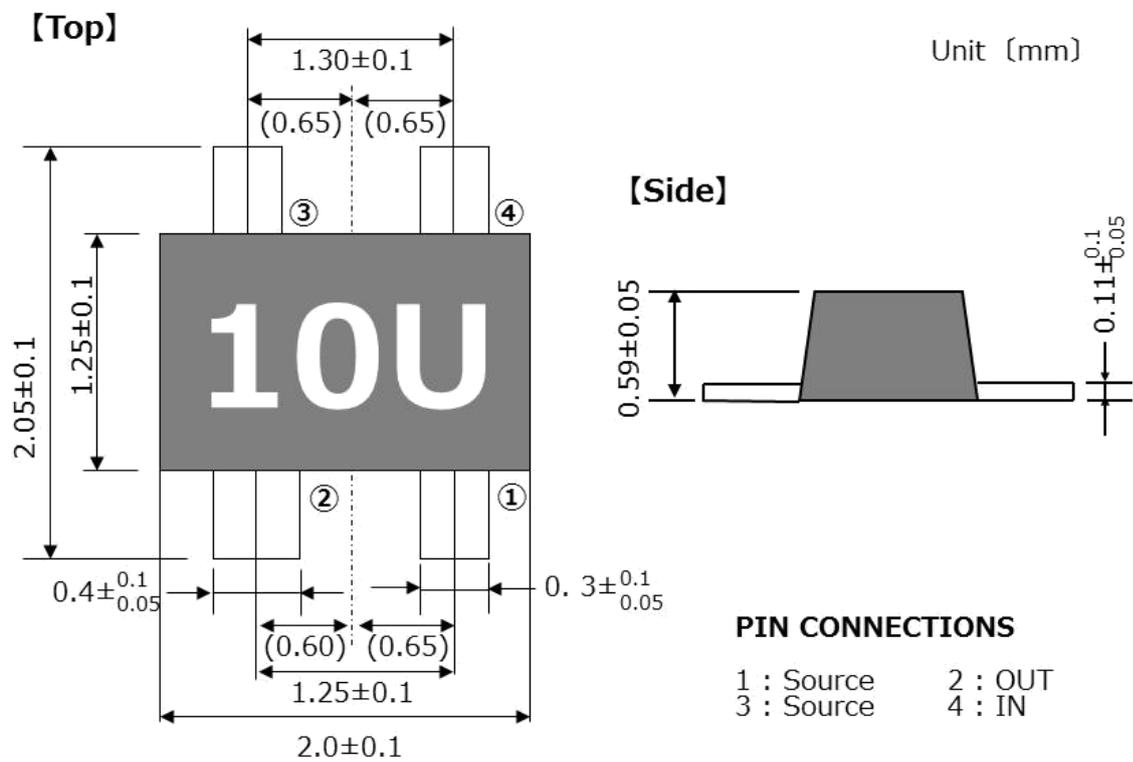


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Package Dimensions :



Recommended Soldering Conditions :

Recommended Soldering Conditions are provided on the CDK Web site.

[Original Products] → [Low Noise Amplifier GaAsIC for GNSS/SDARS] →

[Design Support] → [others]

URL http://www.en.cdk.co.jp/products/highfrequency/rf/LNAGaAsIC/GNSS_SDARS/designsupport/index.html

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[Caution in the gallium arsenide (GaAs) product handling]

This product uses gallium arsenide (GaAs) of the toxic substance appointed in laws and ordinances. GaAs vapor and powder are hazardous to human health if inhaled or ingested.

- Do not dispose in fire or break up this product.
- Do not chemically make gas or powder with this product.
- When discard this product, please obey the law of your country.
- Do not lick the product or in any way allow it to enter the mouth.

[CAUTION]

Although this device is designed to be as robust as possible, ESD (Electrostatic Discharge) can damage this device. This device must be protected at all times from ESD. Static charges may easily produce potentials of several kilovolts on the human body or equipment, which can discharge without detection. Industry-standard ESD precautions should be used at all times.

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